

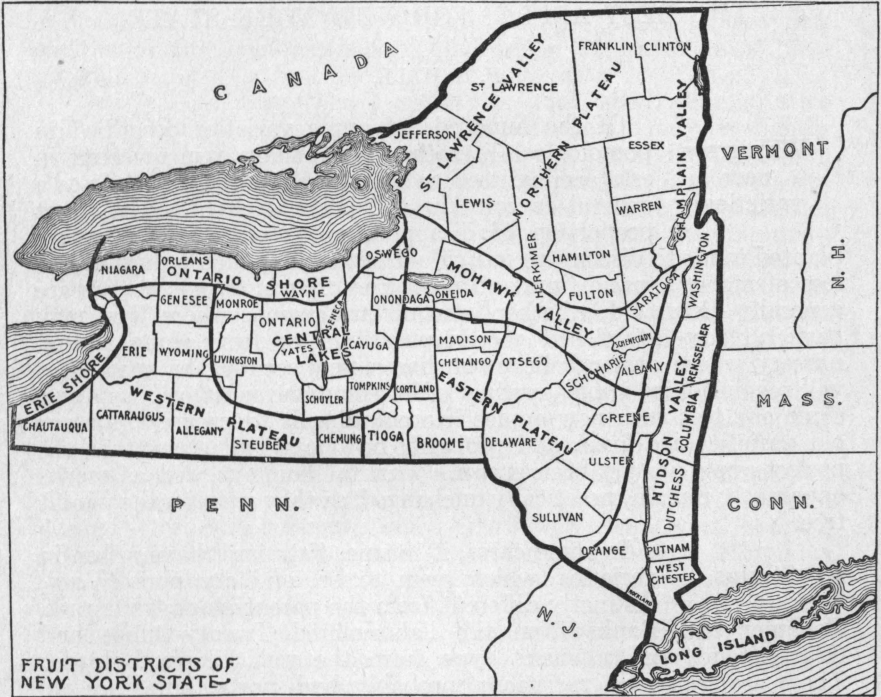
POPULAR EDITION.

BULLETIN No. 361.

MARCH, 1913.

New York Agricultural Experiment Station.

GENEVA, N. Y.



THE BEST APPLES FOR NEW YORK STATE.

SUMMARIZED BY

F. H. HALL

FROM BULLETIN BY

U. P. HEDRICK AND G. H. HOWE.

PUBLISHED BY THE DEPARTMENT OF AGRICULTURE.

POPULAR EDITION*

OF

BULLETIN No. 361.

THE BEST APPLES FOR NEW YORK STATE.

F. H. HALL.

**Why grow
new
varieties?**

Of the hundreds of apple varieties described in pomological literature not one in ten succeeds in establishing itself as a useful commercial sort or as a general favorite in the home orchard. The great proportion of disappointments when novelties are planted tends to discourage individual testing; for each failure means loss of money, space, time and pleasure. Therefore newcomers are generally distrusted, whether from distant regions where they may have already established good reputations, or from some nearby nursery whose owner believes he has a new seedling or sport that will revolutionize apple-growing. Yet some one must originate and some one test such new apples if orcharding is to progress; for our old varieties are fixed, and probably no one would claim that the perfect apple has yet been grown. Varietal faults as well as merits apparently remain, practically unchanged, as they were on the parent tree.

Strains.

In some cases, it is true, "strains" have arisen in varieties, which seem to be, and occasionally are, distinctly different from the parent stock, as the red Collamer and Banks from the light-colored Twenty-Ounce and Gravenstein; and a russet type from the well known Baldwin. These are well-fixed variations, probably bud-sports; but since we know not why they come into being and have no idea how to produce others, their existence does not weaken the conclusion that no changes in old varieties will give us the new kinds we desire. Other so-called "strains," like Olympia, Vandevere Improved and Improved Wagener, when grown on the Station grounds beside Baldwin and

*This is a brief review of Bulletin No. 361 of this Station on Apples: Old and New, by U. P. Hedrick and G. H. Howe. Anyone interested in the detailed account of the investigations will be furnished, on application, with copies of the complete bulletin, so long as these are available.

Names of those who so desire will be placed on the Station mailing list to receive future bulletins, popular or complete, as issued.

the old Vandevere and Wagener, are identical with the parents, the "improvement" being an accidental result of surroundings or a figment of the improver's imagination.

Much stress has, of late years, been placed on the "Pedigreed" fact that certain trees of a variety show high productiveness, or bear brighter-colored or longer-keeping fruit; and nurserymen have been urged to propagate from such differing trees, yet there is little or no evidence to show that any apple of today, though grown from the most carefully "pedigreed" stock is permanently any better than its predecessors or its sisters from less favored surroundings. No! To get new qualities or new combinations of qualities in apples we must have new kinds.

**Do apple
varieties
"run out?"**

But when a variety is established, that is, after the first few years of its life when it may be slightly variable in the matter of size and vigor, we may depend upon its maintaining its characteristics unchanged. There is no scientific or experimental evidence that varieties degenerate any more than that they improve; though the testimony of evidently sincere and careful growers might be produced to sustain either position. It is a common belief that some varieties, at least, show old age or degeneracy; but observations at the Station, made on hundreds of kinds, do not confirm this belief in the least. Trees grow old and produce poor fruit, and varieties disappear because better ones take their place, or are finally condemned because of some undesirable character that is overlooked at first because of many excellencies. In the Station orchards, however, or in other orchards better suited to their requirements, Fall Pippin, Early Harvest, Oldenburg, Red Astrachan, Maiden Blush, Porter, Sweet Bough, Black Gilliflower, Ben Davis, Esopus, Grimes, Hubbardston, Jonathan, Red Canada, Swaar, Tompkins King, Wagener and Winesap so closely resemble in all respects these same fruits as originally described 100 years ago or more, that no one could point out a difference. The Baldwin is more than 150 years old yet still stands the test as the best commercial apple for New York State, and trees of it on the Station grounds from many sources, some of them from buds of trees said to show marked variations, produce fruit uniformly the same under the same conditions. A Rhode Island Greening tree in our orchard, propagated from what is supposed to be the original tree of the variety, about 200 years old, is the same in growth and bears apples no better, no worse, than trees several generations removed from the parent plant. Ribston, Green Newtown, Holland Winter, Pomme Grise, Winter Pearmain and Yellow Bellflower are known to be over 200 years old, yet their trees still grow vigorously and produce well. If apple varieties are wearing out, it is a slow process.

**Benefits
of apple
testing.**

Since established varieties neither degenerate nor improve and since new varieties are constantly originating it is necessary that some disinterested grower should study these varieties side by side to learn and communicate to intending orchardists those points in which varieties differ one from another and so far as possible to state the truth regarding their utility or lack of it for the orchard planter's needs. This testing the Station does, and in the work has made some studies, comparisons and observations that should be useful. Chief of these is the securing of full descriptive data given in detail for about 700 varieties in the "Apples of New York" and summarized in Bulletin No. 275. Since those publications appeared, 100 or more additional varieties have been grown or listed. It therefore seems best to revise the tabulated descriptions given in Bulletin 275 and to include the new sorts. This table, describing 804 varieties, is given in the regular bulletin bearing the same number as this Popular Edition; while for this edition about 100 varieties have been selected which include practically all apples that have any special value or merit testing in New York State either in the commercial orchard or for home use. This table will be found on pages 8 to 11 of this bulletin.

**Apple
groups.**

In handling such numbers of varieties of any fruit, similarities are constantly observed; so that practically all apples fall more or less naturally into "groups,"—collections with very indefinite limits, but including those varieties that have more similarities than contrasts. In many cases these "family resemblances" are so marked that the observer concludes at once that the members of the group trace back more or less directly to a common ancestor.

These "groups," though as yet incompletely established and subject to constant change, serve many good purposes; since the behavior of some well-known member of a group, frequently the "name parent," may give a clue to the behavior of the whole collection and enable us to decide at once that an unknown member of the group is worth consideration or should be rejected. For instance, we would not look in the Early Harvest group for a winter apple, in the Lady group for one to supply a commercial pie factory, nor in the Wealthy group for a variety for Long Island.

The characteristics of some of these "groups" that are of value in New York, with well-known representatives of each, are noted in succeeding paragraphs. It should be said that not all the varieties named in the groups are valuable, for sometimes a very characteristic member of a group is, by some special quality, rendered useless under particular conditions. For the valuable varieties, the table is the guide.

Aport group.—Large, handsome, fall apples, coarse in texture and of medium quality. Some members of the group are adapted to all parts of New York.

Alexander, Bietigheimer, Bismarck, Constantine, Wolf River.

Baldwin group.—Highly colored, long keeping, well flavored, rather large apples with similarities in texture, flavor, form and color markings. Adapted to all districts but most northern in State.

Arctic, Baldwin, Sutton.

Ben Davis group.—Rather large, bright red apples, coarse and solid in texture, with indifferent flavor and thick skin, shipping well and keeping well.

Ben Davis, Black Ben Davis, Gano, Saratoga, Schenectady.

Black Gilliflower group.—Medium sized, dark red, oblong, ribbed apples of good quality but rather dry and coarse in texture. Less hardy than the Baldwin group. Particular as to soils.

Black Gilliflower, Deacon Jones, Striped Gilliflower.

Blue Pearmain group.—Somewhat large, dull red with bluish bloom, mild flavor, fair quality, dense texture and thick skins. For most part valuable only under northern conditions.

Bethel, Blue Pearmain, Jewett Red.

Chenango group.—Medium sized, red striped, oblong conic apples of high quality, peculiar aroma and delicate texture. Succeed where the Baldwin can be grown.

Chenango, Stump.

Early Harvest group.—Summer apples of medium size, pale yellow or white in color, of good but not superior quality and with delicate breaking flesh. Adapted to warmer parts of State.

Early Harvest, Early Ripe, Parry White.

Fameuse group.—Medium sized, handsome red usually striped apples, roundish oblate, thin skinned, of high dessert quality, and pure white tender flesh. A tendency to reproduce true from seed is a striking peculiarity. As a group, predisposed to fungus troubles. The most valuable group for the colder portion of the State.

Cortland, Fameuse, McIntosh, Onondaga, Otsego, Shiawassee.

Jonathan group.—Medium sized, handsome red apples of high quality, and crisp, juicy flesh. Variable in adaptations. Resembles the Baldwin group.

Esopus, Jonathan, King David, Red Canada, Rensselaer, Rockland.

Lady group.—Very small, roundish oblate, dessert apples, handsome in color and sprightly in quality, with crisp, juicy flesh, thin skin, and good keeping qualities. Best adapted to the Hudson Valley and Long Island districts.

Highland, Lady, Sleight.

Northern Spy group.— Large, striped red, roundish oblate, ribbed, delicate bloom, juicy, crisp, fine grain, of highest flavor and quality. Fastidious as to soils but probably can be grown in congenial locations in all but the coldest portions of the State.

Melon, Northern Spy, Ontario, Oswego, Schoharie, Wagener.

Oldenburg group.— Medium to above in size, variously striped with red, generally ripening in fall and of comparatively short season. Tart, culinary apples with but few dessert sorts. Russian. Probably the most cosmopolitan of the groups here listed — some members succeeding in all parts of New York.

Anis Rose, Autumn Streaked, Oldenburg. GRAVENSTEIN SECTION: Banks, Gravenstein.

Reinette group.— With few exceptions rather large in size, of green or yellow ground color, with or without blush, and generally of good quality. A large and poorly defined group which is here divided into four sections. Nearly all of the members, with the exception of a few in the Newtown section, thrive in New York; but not many of them in the northern district.

FALL PIPPIN SECTION: Boiken, Fall Pippin, Hawley, Lowell, Maiden Blush, Winter Banana. RHODE ISLAND GREENING SECTION: Autumn Swaar, Northwestern Greening, R. I. Greening. NEWTOWN SECTION: Clinton, Green Newtown, Grimes, Peck Pleasant, Winchester, Yellow Newtown. SWAAR SECTION: Mann, Seneca Favorite, Swaar.

Romanite group.— Variable in size, highly colored, from poor to good in quality, keeping very late. Mainly southern apples.

Pennock, Stark, York Imperial.

Russet group.— Ranging from small to above medium in size, russet colored, with peculiarly fine-grained, dense texture, sprightly flavor and good-keeping quality. Some member succeeds in each of the New York districts.

Golden Russet, Roxbury.

Tompkins King group.— Early winter apples, large, attractively striped with red, variable but symmetrical in form, of superior quality and characteristic dense, coarse texture and aromatic, yellowish flesh. Especially suited to the western New York districts.

Hubbardston, Ribston, Tompkins King.

Twenty Ounce group.— Large, late fall, broadly splashed red apples, roundish in form, of good quality and with a coarse, yellowish, aromatic flesh. Grown more or less generally in all but the most northern districts.

Collamer, Twenty Ounce.

Wealthy group.— Fruit undersized on old trees. Early and abundant croppers. Hardy and adapted to all of the apple districts of New York.

Peter, Wealthy and several Minnesota seedlings.

Winesap group.— Winter apples, medium to large in size, dark red, rather solid and of fine grain, of good but not high quality, good keepers. Apples of the South and West.

Arkansas, Oliver, Winesap.

Yellow Bellflower group.— Medium to large apples, characteristically oblong conic, predominantly yellow, with a large somewhat remarkably open core. Flesh firm, crisp, aromatic and of high quality for culinary purposes.

Barry, Mason Orange, Yellow Bellflower.

Of the following groups no variety is of special importance in New York: Lawver, Limbertwig, Longfield, Lowland Raspberry, Newtown Spitzenburg, Ralls, Ramba, Red Astrachan, Rome, Sweet Bough, Vandevere and Yellow Transparent.

Seedless apples. Seedless apples are not new though the stir made about one variety a few years ago might have led those uninformed into thinking them one of nature's newest and most marvelous developments.

Yet both Greek and Roman writers describe them and references to them have not been uncommon down through the pomological ages. However, we know nothing of how they arise, so are working in the dark in any attempt to secure new varieties of apples without seeds; and each of the old varieties has too many bad qualities to make propagation merely for seedlessness advisable. But a seedless and coreless apple as good as Baldwin or dozens of other sorts would almost revolutionize apple growing; so it is worth while to do breeding work with these peculiar fruits, though the very factor that makes them valuable adds double difficulty for the breeder. Some seeds are borne on every "seedless" apple tree, however; and no one seems to know whether these seeds will or will not tend to produce trees bearing similar fruit. References have been found to nearly 40 seedless apples reported in the United States within the past twenty years; and the Station has upon its grounds trees of nine such varieties. We have already begun crossing and other breeding work with them, and will be glad to have cions or buds of other seedless sorts with the hope that from some existing variety may be bred a worthy variety without seeds.

Apples for New York districts.

In the table which follows an attempt has been made to indicate, to some extent, the local adaptations of varieties; for which purpose the State has been divided into nine fruit districts, whose borders correspond, roughly, to those shown on the title page map. The purpose of other columns of the table will be understood by a study of the headings and the

APPLE VARIETIES FOR

ABBREVIATIONS.—*Size*.—l, large; m, medium; s, small; v, very. *Form*.—a, angular; c, conical; l, light; r, red; ru, russet; s, striped; w, white; y, yellow. *Flavor*.—a, acid; b, brisk; m, mild; s, sweet; *Starring*.—*, recommended; **, well recommended; +, worthy of trial.

No.	VARIETY.	Origin.	Bearing age.	Form.	Size.	Color of skin.	Color of flesh.	Flavor.	Quality.	Use.	Season.
1	Akin.....	Ill.....	8 yrs.	r o i	m	y r s	y	b s a	g	d	Jan., June
2	Alexander.....	Rus.....		r o c	vl	y r s	y w	m s a	f—g	k	Sept., Nov.
3	Anis Rose.....	Rus.....		r o	m—l	y w r s	w	s a	g	k	Aug., Sept.
4	Arctic.....	N. Y.....		r o c	l—m	y r s	y	m s a	g	k	Oct., Feb.
5	Autumn Bough.....	Am.....		o b c	l	y	w	s	g	d k	Aug., Sept.
6	Baldwin.....	Mass.....	8 yrs.	r e	l	y r s	y	b s a	f—vg	d k	Nov., Mar.
7	Banks.....										
8	Baxter.....	Can.....		r c	l—vl	y r s	y	m s a	f—g	k	Nov., Jan.
9	Ben Davis.....	Ky.....	4 yrs.	r o b c	m—l	y r s	w y	m s a	g	k	Jan., Jun.
10	Bethel.....	Vt.....		r c	l	y r s	w	m s a	f—g	k d	Nov., Mar.
11	Bismarck.....	N. Z.....	7 yrs.	r o c	l—vl	y r s	w	s a	f—g	k	Oct., Dec.
12	Black Ben Davis.....	Ark.....	5 yrs.	r c	m—l	y d r	w	m s a	g	k	Jan., Apr.
13	Black Gilliflower.....	Am.....	12 yrs.	o b c	m—l	y g d r	w	m s a	f	d k	Oct., Feb.
14	Boiken.....	Eu.....	5 yrs.	o c a	m—vl	y b	w	b s a	f	k	Nov., Mar.
15	Chenango.....	N. Y.....		r o b c	l—m	y r s	w	m s a	g—vg	d	Aug., Sept.
16	Collamer.....										
17	Constantine.....	Rus.....		r c	l—vl	g y r s	g w	b s a	f—g	k	Sept., Nov.
18	Cornell.....	Pa.?		r o c	l—m	y r s c	w	s a	vg	d	Sept., Nov.
19	Cox Orange.....	Eng.....		r o	m	y r s	y	m s a	vg—b	d	Sept., Jan.
20	Deacon Jones.....	Pa.....	8 yrs.	r c	l—vl	y r	y w	m s a	f—g	k	Nov., Mar.
21	Delicious.....	Iowa.....	9 yrs.	r o b c	l	y r s	y	s a	g	d k	Dec., Mar.
22	Early Harvest.....	Am.....	4 yrs.	r o	m	y	v w	s a	g—vg	d	July, Aug.
23	Early Joe.....	N. Y.....		o c	s—m	g y r s	w	m s a	vg—b	d	Aug., Sept.
24	Esopus Spitzenburg.....	N. Y.....	9 yrs.	r c	m—l	y r s	y	s a	vg—b	d k	Nov., Feb.
25	Fall Pippin.....	Am.....	9 yrs.	r o	l—vl	g y	w	s a	vg	d k	Sept., Jan.
26	Fameuse.....	Unk.....	5 yrs.	r o	m	y r s	w	s a	vg	d	Oct., Dec.
27	Fanny.....	Pa.....		r o c	m	y r s	w y	m s a	g—vg	d	Sept., Nov.
28	Fishkill.....	N. Y.....		r o	l—vl	y r	w y	m s a	f—g	k	Nov., Feb.
29	Gano.....	Unk.....		r c	m	y r s	y w	m s a	g	k	Dec., Apr.
30	Golden Russet.....	Eng.?	9 yrs.	r o c	m	g y r u	g y	s a	vg	d k	Dec., Apr.
31	Gravenstein.....	Eu.....	8 yrs.	o	l	y r s	y	s a	vg—b	d k	Sept., Nov.
32	G'n and Y'tw Newtown.....	N. Y.....	5 yrs.	r o	m—vl	g y	g w	s a	b	d k	Feb., May.
33	Grimes.....	W. Va.....		r o b	m—l	y	y	s a	vg—b	d k	Nov., Feb.
34	Hawley.....	N. Y.....		r	l—vl	g y	y	m s a	vg	d	Sept., Nov.
35	Hook.....	N. Y.?		r o b c	m	g y	w y	m s a	vg	d	Oct., Nov.
36	Hubbardston.....	Mass.....	9 yrs.	r c	l	y r s	y	m s a	vg—b	d k	Oct., Jan.
37	Jeffers.....	Pa.....	4 yrs.	r o	s—m	g y r s	w y	m s a	vg	d	Sept., Jan.
38	Jersey Sweet.....	Unk.....		r c	m	y r s	w y	s	g—vg	d	Sept., Dec.
39	Jew tt Red.....	N. H.....		r o	m	y r s		s a	g—vg	d	Oct., Feb.
40	Jonathan.....	N. Y.....		r c	m	y r s	y	s a	vg—b	d k	Nov., Jan.
41	King David.....	Ark.....		r o c	l	y d r	y	b s a	g	k	Nov., Jan.
42	Lady.....	Fr.....	12 yrs.	o	s—vs	y b	w	s a	g—vg	d	Dec., May
43	Lady Sweet.....	N. Y.....	9 yrs.	r c	l—m	y g r s	w y	s	vg—b	d k	Nov., Apr.
44	Longevity.....	Can.....		r c	l	g y r	y	s a	g	k	Jan., Mar.
45	Lord Seedling.....	N. Y.....		r o b c	m	y	y w	m s a	g—vg	d k	Sept., Oct.

key to abbreviations that is given at the top of the pages. It should be said that the months under "Season" mark the beginning of edibility of the variety and the end of its season in ordinary storage. Those varieties are included that have been grown and selected at the Station as a result of its apple-breeding work. These are recommended for testing.

NEW YORK STATE.

i, irregular; o, oblate; ob, oblong; ov, ovate; r, roundish. *Color*.—b, blush; c, carmine; d, dark; g, green; sa, subacid. *Quality*.—b, best; g, good; f, fair; p, poor; v, very. *Use*.—d, dessert; k, kitchen.

No.	Long Island.	Hudson Valley.	St. Lawrence and Champlain Vlys.	Mohawk Valley.	Eastern Plateau.	Central Lakes.	Ontario Shore.	Erie Shore.	Western Plateau.	REMARKS.
1	+	+	..	..	..	+	..	..	..	A beautiful apple of good quality.
2	*	*	..	..	..	..	..	..	*	Trees good. Fruit large, beautiful, of fair quality.
3	+	+	+	+	+	+	+	+	+	Worthy of testing.
4	..	..	..	..	..	..	..	..	..	Worthy of trial in northern New York.
5	..	..	..	..	..	..	..	..	..	Ranks among our best sweet apples.
6	**	**	**	**	**	**	**	**	**	Standard winter apple of New York.
7	+	+	+	+	+	+	+	+	+	
8	..	..	..	..	..	..	..	..	..	Valuable in northern New York.
9	**	**	**	**	**	**	**	**	**	Hardy, healthy, vigorous, productive. Lacks quality.
10	..	..	..	..	..	..	..	..	..	Blue Pearmain type. Valuable in northeastern New York.
11	*	*	**	*	*	*	*	*	*	Tree hardy, healthy; bears young and productive, Fruit attractive but inferior in quality.
12	**	**	..	..	..	**	**	**	..	Ben Davis type, and of value.
13	**	**	..	..	..	**	**	**	..	An old but still valuable variety.
14	..	..	*	*	*	*	*	*	*	Widely planted as a filler, but not very desirable.
15	**	**	**	**	**	**	**	**	**	Attractive, good quality, easily bruised; excellent.
16	**	**	*	*	*	**	**	**	**	
17	*	*	**	**	*	*	*	*	*	Tree and fruit characters good. Subject to blight. A market sort desirable as a filler.
18	+	+	+	+	+	+	+	+	+	Recommended by U. S. Department of Agriculture.
19	*	*	..	..	..	+	+	+	..	Desirable for the home orchard.
20	+	+	+	+	+	+	+	+	+	An attractive market fruit. Heavy bearer.
21	+	+	+	+	+	+	+	+	+	Well worth testing in New York.
22	*	*	..	..	..	*	*	*	*	Valuable only as an early dessert apple.
23	*	*	..	..	..	*	*	*	*	Of value for the home orchard only. High quality.
24	**	**	**	**	**	**	**	**	**	Lacks vigor. Unproductive. Best quality.
25	**	**	*	*	**	**	**	**	**	A standard variety. Recommended.
26	..	..	**	*	*	..	..	..	..	Hardy, productive. Fruit scabs badly, tender, small.
27	*	*	..	..	..	*	*	*	*	Vigorous, productive. Fruit bright red, good, small.
28	..	..	*	*	*	..	..	..	..	Worth planting in certain localities.
29	**	**	..	..	..	**	**	**	..	Valuable where Ben Davis thrives.
30	*	*	..	*	*	*	*	*	*	Hardy, vigorous, productive. Small, late, excellent.
31	*	**	**	*	*	*	*	*	*	Bears early, productive, vigorous. Attractive, excellent.
32	**	**	..	..	**	*	*	..	..	Standard in quality. Succeeds in certain localities only.
33	*	*	..	..	..	*	*	*	*	Beautiful and of high quality. Not always reliable.
34	*	*	..	..	..	*	*	*	*	Handsome and delicious, but poor tree characters.
35	..	..	*	*	*	..	..	..	..	Unattractive, but excellent.
36	**	**	..	*	**	**	**	*	*	Bears early, productive. Fruit handsome and good.
37	*	*	..	..	..	*	*	*	*	Excellent for the home orchard.
38	*	*	..	..	..	*	*	*	*	One of the best sweet apples for home use.
39	..	..	*	*	..	..	..	..	..	One of the best in quality of the Blue Pearmain type.
40	**	**	..	**	*	*	*	*	*	Excellent but small in New York.
41	+	+	+	+	+	+	+	+	+	Appears promising as a commercial sort.
42	*	*	..	*	*	*	*	*	*	A beautiful fancy apple suitable for special trade.
43	*	**	..	*	*	*	*	*	*	One of the most desirable of the sweet apples.
44	+	+	+	+	+	+	+	+	+	Not fully tested. Attractive and appears promising.
45	+	+	+	+	+	+	+	+	+	New and recommended for home orchards.

APPLE VARIETIES FOR

ABBREVIATIONS.—Size.—l, large; m, medium; s, small; v, very. Form.—a, angular; c, conical; l, light; r, red; ru, russet; s, striped; w, white; y, yellow. Flavor.—a, acid; b, brisk; m, mild; s, sweet; Starring.—*, recommended; **, well recommended; +, worthy of trial.

No.	VARIETY.	Origin.	Bearing age.	Form.	Size.	Color of skin.	Color of flesh.	Flavor.	Quality.	Use.	Season.
46	Lowell	Am.		r ob c	l	y	y	sa	g—vg	d k	Aug., Oct.
47	Lowland Raspberry	Rus.		rc	m—l	wrs	w	m sa	vg	d	Aug.
48	McIntosh	Can.	6 yrs.	r	m—l	yrs	w	m sa	vg—b	d	Oct., Dec.
49	Maiden Blush	N. J.	4 yrs.	o	m	y b	w	sa	g	k	Sept., Nov.
50	Melon	N. Y.	4 yrs.	r oc	l—m	y g rs	w	sa	vg	d	Oct., Jan.
51	Mother	Mass.	9 yrs.	rc	m	yrs	y	m sa	vg—b	d	Sept., Jan.
52	Northern Spy	N. Y.	13 yrs.	rc	l—vl	yrs	y w	sa	vg—b	d k	Dec., Feb.
53	Oldenburg	Rus.	2 yrs.	ro	m—l	g y rs	y w	sa	g—vg	k	Aug., Sept.
54	Opalescent	O.?		rc	l—vl	y dr	y w	m sa	g—vg	d	Oct., Jan.
55	Porter	Mass.		ob c	s—l	y b	y	sa	g—vg	d k	Sept., Nov.
56	Primate	N. Y.	3 yrs.	r oc	m—l	y g b	w	sa	vg—b	d	Aug., Sept.
57	Pumpkin Sweet	Conn.	9 yrs.	rc	l—vl	g y	w	s	g	k	Oct., Jan.
58	Red Astrachan	Rus.	5 yrs.	rc	m—l	yrs	w	b sa	g—vg	d k	Aug., Sept.
59	Red Canada	N. Eng.?		rc	m	yrs	w	m sa	g—b	d k	Nov., Mar.
60	Rhode Island Greening	R. I.	5 yrs.	ro	l	y g	y	sa	vg	d k	Oct., Mar.
61	Rome	O.	2 yrs.	r oc	l	g y rs	y	sa	g	k	Nov., Mar.
62	Roxbury	Mass.		ro	l—m	y ru	y w	sa	g—vg	d	Dec., May
63	Sekula	Unk.		o	l	g y dr	g w	m sa	f	k	Dec., Mar.
64	Stark	O.		rc	l—m	y rs	y	m sa	f—g	k	Jan., June
65	Stump	N. Y.	7 yrs.	r ob c	m—s	w y rs	w y	sa	vg	d	Sept., Oct.
66	Sutton	Mass.	9 yrs.	r	m	yrs	w	m sa	g—vg	d k	Nov., Mar.
67	Swaar	N. Y.		ro	l—m	g y	y	m sa	vg—b	d	Nov., Apr.
68	Sweet Bough	Am.		r ob c	l—m	g y	w	s	g—vg	d k	Aug., Sept.
69	Sweet Winesap	Pa.		rc	m—l	w y rs	w y	s	g—vg	d k	Nov., Apr.
70	Tolman Sweet	Mass.	8 yrs.	r	m	y	w	s	g—vg	d k	Nov., Jan.
71	Tompkins King	N. J.?	5 yrs.	r co	l—vl	yrs	y	sa	vg—b	d k	Oct., Jan.
72	Twenty Ounce	Conn.	5 yrs.	rc	vl	g y rs	w y	sa	g	k	Sept., Dec.
73	Wagener	N. Y.	4 yrs.	ro	m—l	yrs	y	sa	vg—b	d k	Oct., Feb.
74	Wealthy	Minn.	6 yrs.	r oc	l—m	yrs	y w	sa	g—vg	d k	Oct., Jan.
75	Winter Banana	Ind.	5 yrs.	r oc	l	w y b	y	m sa	g—vg	d k	Nov., Jan.
76	Yellow Bellflower	N. J.	9 yrs.	r ob c	m—vl	w y b	y	b sa	g	k	Dec., Apr.
77	Yellow Transparent	Rus.	4 yrs.	r oc	m	w y	w	sa	g—vg	d k	July, Aug.
STATION SEEDLINGS.											
78	Clinton	N. Y.	4 yrs.	r oc	l	g y b	y	sa	g	k	Dec., Feb.
79	Cortland	N. Y.	6 yrs.	ro	l	y dr sc	w	sa	g	d k	Nov., Feb.
80	Herkimer	N. Y.		r ob c	m—l	g y rs c	y	b sa	g	k	Dec., Mar.
81	Montgomery	N. Y.		r oc	l	g w rs	w	b sa	g	k	Sept., Oct.
82	Nassau	N. Y.		o	m	yrs	y w	sa	g	k	Dec., Mar.
83	Onondaga	N. Y.	6 yrs.	rc	l	g y drs	y w	sa	g	k	Nov., Jan.
84	Oswego	N. Y.	6 yrs.	rc	l	g y drs	y	b sa	vg	d	Dec., Apr.
85	Otsego	N. Y.	4 yrs.	r ob c	m	y dr sc	y	m sa	g	d	Nov., Feb.
86	Rensselaer	N. Y.	5 yrs.	rc	l	y br	y	sa	g	d	Dec., Feb.
87	Rockland	N. Y.		rc	m—l	y dr sc	y	sa	g	d k	Nov., Jan.
88	Saratoga	N. Y.	5 yrs.	r oc	l	g y r	w y	sa	g	k	Jan., Apr.
89	Schenectady	N. Y.	5 yrs.	rc	l	g y rc	y w	sa	g	k	Nov., Jan.
90	Schoharie	N. Y.	6 yrs.	r ob c	l	y drs	y	m sa	g	d k	Nov., Mar.
91	Tioga	N. Y.		r oc	l	w y b	y	b sa	g	k	Dec., Mar.
92	Westchester	N. Y.	4 yrs.	rc	l	y br	y	m sa	g—vg	d k	Nov., Jan.
CRABAPPLES.											
93	Excelsior	Minn.		ro	l	y r	w	sa	g—vg	d k	Sept.
94	Gibb	Wis.		ro	l	y br	y	sa	g	k	Aug.
95	Hyslop	Unk.		rc	l—m	y dr	y	sa	g	k	Sept., Oct.
96	Martha	Minn.		o	m—l	y r	y	b sa	g—vg	d k	Sept., Nov.
97	Transcendent	Am.		r ob c	m—l	y b	y	sa	vg	k	Aug., Sept.
98	Whitney	Ill.		rc	l	y rs	y	m sa	g—vg	d k	Aug., Sept.

NEW YORK STATE.—(Concluded).

i, irregular; o, oblate; ob, oblong; ov, ovate; r, roundish. Color.—b, blush; c, carmine; d, dark; g, green; sa, subacid. Quality.—b, best; g, good; f, fair; p, poor; v, very. Use.—d, dessert; k, kitchen.

No.	Long Island.	Hudson Valley.	St. Lawrence and Champlain Vlys.	Mohawk Valley.	Eastern Plateau.	Central Lakes.	Ontario Shore.	Erie Shore.	Western Plateau.	REMARKS.
46	*	*			*	*	*	*	*	Desirable for home use and local market.
47	+	+	+	+	+	+	+	+	+	A beautiful dessert fruit.
48	*	*	*	*	*	*	*	*	*	One of the best sorts of its season.
49	*	*	*	*	*	*	*	*	*	Worthy of planting for home or market, where it succeeds.
50	*	*	*	*	*	*	*	*	*	Choicely good for the home orchard.
51	*	*	*	*	*	*	*	*	*	Tree characteristics poor. Appearance and quality of the best.
52	*	*	*	*	*	*	*	*	*	Tardy bearer. Vigorous. Highest quality. A standard.
53	**	**	**	**	**	**	**	**	**	Hardy, vigorous, productive, cosmopolitan.
54	+	+	+	+	+	+	+	+	+	Worth planting commercially.
55	*	*	*	*	*	*	*	*	*	Has many merits for home use and local market.
56	*	*	*	*	*	*	*	*	*	Tree characters poor. Valuable for dessert and local market.
57	**	**	**	**	**	**	**	**	**	Valued for home and market purposes.
58	**	**	**	**	**	**	**	**	**	Succeeds under many conditions. Home and local markets.
59	**	**	**	**	**	**	**	**	**	Excellent.
60	**	**	**	**	**	**	**	**	**	The standard green apple of New York.
61	**	**	**	**	**	**	**	**	**	A standard commercial variety.
62	**	**	**	**	**	**	**	**	**	A leading commercial variety.
63	...	+	+	+	+	+	+	+	+	New and worth testing.
64	*	*	*	*	*	*	*	*	*	Considered valuable in some sections of New York.
65	*	*	*	*	*	*	*	*	*	Desirable for home use and for local market.
66	*	*	*	*	*	*	*	*	*	Desirable only in the Hudson Valley.
67	*	*	*	*	*	*	*	*	*	One of the best for the amateur. Requires deep, rich loam.
68	**	**	**	**	**	**	**	**	**	A universal favorite for the home orchard and local market.
69	**	**	**	**	**	**	**	**	**	Attractive, excellent quality; reliable cropper; overbears.
70	*	*	*	*	*	*	*	*	*	Hardy, vigorous, early bearer, reliable cropper.
71	*	*	*	*	*	*	*	*	*	Lacks hardiness, vigor, longevity and productiveness.
72	**	**	*	*	*	*	*	*	*	One of the best fall varieties for home or market.
73	**	**	*	*	*	*	*	*	*	Early bearer; heavy cropper; short lived. Good.
74	**	**	**	*	*	*	*	*	*	Tree and fruit characters good. Small on old trees.
75	*	*	*	*	*	*	*	*	*	Of value for home and local market.
76	*	*	*	*	*	*	*	*	*	Poor cropper. Valuable in some districts. Bruises easily.
77	**	**	**	**	**	**	**	**	**	One of the best extra early sorts for home and market.
78	+	+	+	+	+	+	+	+	+	Type of Green Newtown.
79	+	+	+	+	+	+	+	+	+	Similar to McIntosh. Promising for commercial planting.
80	+	+	+	+	+	+	+	+	+	Apparently of value.
81	+	+	+	+	+	+	+	+	+	Promising but not fully tested.
82	+	+	+	+	+	+	+	+	+	Of superior quality.
83	+	+	+	+	+	+	+	+	+	Resembles McIntosh.
84	+	+	+	+	+	+	+	+	+	Very similar to Northern Spy. Very promising.
85	+	+	+	+	+	+	+	+	+	Probably of value for fancy market.
86	+	+	+	+	+	+	+	+	+	Type of Jonathan with high flavor.
87	+	+	+	+	+	+	+	+	+	Of excellent quality.
88	+	+	+	+	+	+	+	+	+	Type of Ben Davis but quality much superior.
89	+	+	+	+	+	+	+	+	+	Promising as a good market variety.
90	+	+	+	+	+	+	+	+	+	Type of Northern Spy. Promising.
91	+	+	+	+	+	+	+	+	+	Very promising. Resembles Northern Spy except in color.
92	+	+	+	+	+	+	+	+	+	Type of Green Newtown.
93	*	*	*	*	*	*	*	*	*	One of the most desirable of its season.
94	*	*	*	*	*	*	*	*	*	Recommended for home use and possibly for market.
95	**	**	**	**	**	**	**	**	**	Widely and deservedly cultivated for home and market.
96	**	**	**	**	**	**	**	**	**	One of the best.
97	**	**	**	**	**	**	**	**	**	Tree hardy, good grower, very productive. Very popular.
98	*	*	*	*	*	*	*	*	*	One of the most popular of the large crabs.

Disease-resistant varieties

Some diseases of apples, like fire blight, are practically uncontrollable by any means the orchardist yet knows; and others, like scab, while no longer dreaded by the commercial apple-grower, since they can be readily controlled, are destructive in home orchards or village gardens where spraying is not always feasible. On this account varieties that are even partly resistant to such diseases possess at least one character to commend them. Notes have been taken at the Station as regards the behavior of the different varieties in respect to blight and scab; and marked differences have been found in susceptibility. The disease-resistant varieties, are, in many cases, of themselves worthy; so the lists below will be of some use to those about to plant, but they will probably be more useful to breeders; for it is possible — in one case it seems proven — that disease resistance is inherited like any other character. If this be true, breeding for this quality would present no impossibilities, though, like all other breeding work, it may be slow, since with the resistance we must secure the combination of many other desirable characteristics.

SUSCEPTIBILITY OF APPLES TO APPLE SCAB.

<i>Relatively immune.</i>	<i>Relatively susceptible.</i>
Ben Davis	Bellflower
Black Gilliflower	Chenango
Gano	Esopus
Gravenstein	Fall Pippin
Grimes	Fameuse
Hubbardston	Green Newtown
Jonathan	Hawley
Oldenburg	Lady
Red Astrachan	Lady Sweet
Rome	Maiden Blush
Roxbury Russet	McIntosh
Sutton	Northern Spy
Swaar	Red Canada
Tolman Sweet	Rhode Island Greening
Tompkins King	Twenty Ounce
Wagener	
Wealthy	
Yellow Transparent	

SUSCEPTIBILITY OF APPLES TO APPLE BLIGHT

<i>Immune in 1906 (blight very common).</i>	<i>Very susceptible.</i>
Baldwin	Black Gilliflower
Cox Orange	Constantine
Delicious	Esopus
Grimes	Fall Pippin
Lady	Jonathan
Northern Spy	Rhode Island Greening.
Swaar	Rome
Sweet Bough	Sutton
Tompkins King	
Twenty Ounce	
Wagener	